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Sequence Listing could not be accepted due to errors.

See attached Validation Report.

If you need help call the Patent Electronic Business Center at (866)
217-9197 (toll free).

Reviewer: markspencer

Timestamp: [year=2010; month=2; day=19; hr=9; min=42; sec=47; ms=323;]

=====

Reviewer Comments:

1.

E355 Empty lines found between the amino acid numbering and
the proteins SEQID (11)

E321 No. of Bases conflict, this line has no nucleotides
SEQID (11) POS (126)

E355 Empty lines found between the amino acid numbering and
the proteins SEQID (12)

E321 No. of Bases conflict, this line has no nucleotides
SEQID (12) POS (0)

E355 Empty lines found between the amino acid numbering and
the proteins SEQID (12)

E321 No. of Bases conflict, this line has no nucleotides
SEQID (12) POS (512)

E355 Empty lines found between the amino acid numbering and
the proteins SEQID (22)

E321 No. of Bases conflict, this line has no nucleotides
SEQID (22) POS (112)

E355 Empty lines found between the amino acid numbering and
the proteins SEQID (24)

E321 No. of Bases conflict, this line has no nucleotides
SEQID (24) POS (496)

E355 Empty lines found between the amino acid numbering and
the proteins SEQID (28)

E321 No. of Bases conflict, this line has no nucleotides
SEQID (28) POS (16)

E355 Empty lines found between the amino acid numbering and
the proteins SEQID (30)

E321 No. of Bases conflict, this line has no nucleotides
SEQID (30) POS (48)

<210> 11
 <211> 1582
 <212> DNA
 <213> Zea mays
 <220>
 <221> CDS
 <222> (10)..(1563)
 <223> Shrunk-2 gene revertant form
 <220>
 <221> variation
 <222> (267)
 <223> k = g or t; amino acid 86 = Ala.
 <220>
 <221> variation
 <222> (1368)
 <223> r = a or g; amino acid 453 = Pro.
 <220>
 <221> variation
 <222> (1578)
 <223> k = g or t.
 * * * * *

gtt gga gga tgt tac agg ctt att gat atc cct atg agt aac tgc ttc	387
Val Gly Gly Cys Tyr Arg Leu Ile Asp Ile Pro Met Ser Asn Cys Phe	
115 120 125	

aac agt ggt ata aat aag ata ttt gtg atg agt cag ttc aat tct act	435
Asn Ser Gly Ile Asn Lys Ile Phe Val Met Ser Gln Phe Asn Ser Thr	
130 135 140	

tgc ctt aac cgc cat att cat cgt aca tac ctt gaa ggc ggg atc aac	483
Ser Leu Asn Arg His Ile His Arg Thr Tyr Leu Glu Gly Gly Ile Asn	
145 150 155	

For SEQ ID # 11, 12, 22, 24, 28, and 30 the sequence rules specify the numbering for amino acids be placed below the line of amino acids in a protein or coding region of a nucleotide sequence.

"Sec. 1.822 Symbols and format to be used for nucleotide and/or amino acid sequence data.

(a) The symbols and format to be used for nucleotide and/or amino

acid sequence data shall conform to the requirements of paragraphs (b) through (e) of this section.

(d) Representation of amino acids. (1) The amino acids in a protein or peptide sequence shall be listed using the three-letter abbreviation with the first letter as an upper case character, as in WIPO Standard ST.25 (1998), Appendix 2, Table 3.

(4) The enumeration of amino acids may start at the first amino acid of the first mature protein, with the number 1. When presented, the amino acids preceding the mature protein, e.g., pre-sequences, pro-sequences, pre-pro-sequences and signal sequences, shall have negative numbers, counting backwards starting with the amino acid next to number 1. Otherwise, the enumeration of amino acids shall start at the first amino acid at the amino terminal as number 1. It shall be marked below the sequence every 5 amino acids."

In the SEQ ID numbers listed above there are blank lines found between the amino acids and the numbering for the amino acids at different locations. Please remove all blank lines found between the amino acids and the numbering in these sequences.

2.

E300	Invalid codon found Asn SEQID (11) POS: 388
E300	Invalid codon found Ser SEQID (11) POS: 391
E300	Invalid codon found Gly SEQID (11) POS: 394
E300	Invalid codon found Ile SEQID (11) POS: 397
E300	Invalid codon found Asn SEQID (11) POS: 400
E300	Invalid codon found Lys SEQID (11) POS: 403
E300	Invalid codon found Ile SEQID (11) POS: 406
E300	Invalid codon found Phe SEQID (11) POS: 409
E300	Invalid codon found Val SEQID (11) POS: 412
E300	Invalid codon found Met SEQID (11) POS: 415
E300	Invalid codon found Ser SEQID (11) POS: 418
E300	Invalid codon found Gln SEQID (11) POS: 421
E300	Invalid codon found Phe SEQID (11) POS: 424
E300	Invalid codon found Asn SEQID (11) POS: 427
E300	Invalid codon found Ser SEQID (11) POS: 430
E300	Invalid codon found Thr SEQID (11) POS: 433

The errors shown above are ok and require no response.

Application No: 10569000 Version No: 1.0

Input Set:**Output Set:**

Started: 2010-02-18 13:09:42.494
Finished: 2010-02-18 13:09:51.451
Elapsed: 0 hr(s) 0 min(s) 8 sec(s) 957 ms
Total Warnings: 0
Total Errors: 302
No. of SeqIDs Defined: 42
Actual SeqID Count: 42

Error code	Error Description
E 355	Empty lines found between the amino acid numbering and the
E 321	No. of Bases conflict, this line has no nucleotides SEQID (11)
E 300	Invalid codon found Asn SEQID (11) POS: 388
E 300	Invalid codon found Ser SEQID (11) POS: 391
E 300	Invalid codon found Gly SEQID (11) POS: 394
E 300	Invalid codon found Ile SEQID (11) POS: 397
E 300	Invalid codon found Asn SEQID (11) POS: 400
E 300	Invalid codon found Lys SEQID (11) POS: 403
E 300	Invalid codon found Ile SEQID (11) POS: 406
E 300	Invalid codon found Phe SEQID (11) POS: 409
E 300	Invalid codon found Val SEQID (11) POS: 412
E 300	Invalid codon found Met SEQID (11) POS: 415
E 300	Invalid codon found Ser SEQID (11) POS: 418
E 300	Invalid codon found Gln SEQID (11) POS: 421
E 300	Invalid codon found Phe SEQID (11) POS: 424
E 300	Invalid codon found Asn SEQID (11) POS: 427
E 300	Invalid codon found Ser SEQID (11) POS: 430
E 300	Invalid codon found Thr SEQID (11) POS: 433
E 355	Empty lines found between the amino acid numbering and the
E 321	No. of Bases conflict, this line has no nucleotides SEQID (12)

Error code	Error Description
E 355	Empty lines found between the amino acid numbering and the
E 321	No. of Bases conflict, this line has no nucleotides SEQID (12)
E 336	Empty lines found between the proteins and the dna
E 336	Empty lines found between the proteins and the dna
E 336	Empty lines found between the proteins and the dna
E 336	Empty lines found between the proteins and the dna
E 336	Empty lines found between the proteins and the dna
E 336	Empty lines found between the proteins and the dna
E 336	Empty lines found between the proteins and the dna
E 336	Empty lines found between the proteins and the dna
E 336	Empty lines found between the proteins and the dna
E 336	Empty lines found between the proteins and the dna
E 336	Empty lines found between the proteins and the dna
E 336	Empty lines found between the proteins and the dna
E 336	Empty lines found between the proteins and the dna
E 336	Empty lines found between the proteins and the dna
E 336	Empty lines found between the proteins and the dna
E 336	Empty lines found between the proteins and the dna
E 336	Empty lines found between the proteins and the dna
E 336	Empty lines found between the proteins and the dna This error has occurred more than 20 times, will not be displayed

Input Set:

Output Set:

Started: 2010-02-18 13:09:42.494
Finished: 2010-02-18 13:09:51.451
Elapsed: 0 hr(s) 0 min(s) 8 sec(s) 957 ms
Total Warnings: 0
Total Errors: 302
No. of SeqIDs Defined: 42
Actual SeqID Count: 42

Error code	Error Description
E 355	Empty lines found between the amino acid numbering and the
E 321	No. of Bases conflict, this line has no nucleotides SEQID (22)
E 355	Empty lines found between the amino acid numbering and the
E 321	No. of Bases conflict, this line has no nucleotides SEQID (24)
E 355	Empty lines found between the amino acid numbering and the
E 321	No. of Bases conflict, this line has no nucleotides SEQID (28)
E 355	Empty lines found between the amino acid numbering and the
E 321	No. of Bases conflict, this line has no nucleotides SEQID (30)

SEQUENCE LISTING

<110> University of Florida Research Foundation, Inc.
Hannah, L. Curtis
Lyerly Linebarger, Carla R.

<120> Heat Stable Variants of Adenosine Diphosphate Glucose Pyrophosphorylase

<130> UF-371XC1 PCT

<140> 10569000

<141> 2010-02-18

<150> US 60/496,188

<151> 2003-08-18

<160> 42

<170> PatentIn version 3.2

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<211> 1425

<212> DNA

<213> zea mays

<400> 1

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aactctgctt ccccaaccg tcacctctca agagcctacg ggagcaacat tggagggtag      360
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atggaatttc taattcttgc tggcgatcac ctgtaccgga tggactatga aaagttcatt      540
caggcacaca gagaacaaaa tgctgatatt accgttgctg ccctaccgat ggatgagaaa      600
cgtgcaactg catttggcct catgaaaatt gatgaagaag ggaggatcat tgagtttgc      660
gagaaaccga aaggagagca gttgaaagca atgatggttg acaccacat acttggcctt      720
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<211> 475
<212> PRT
<213> zea mays

<400> 2

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			20					25						30	
Asp	Ser	Thr	Tyr	Leu	Asn	Pro	Gln	Ala	His	Asp	Ser	Val	Leu	Gly	Ile
			35					40						45	
Ile	Leu	Gly	Gly	Gly	Ala	Gly	Thr	Arg	Leu	Tyr	Pro	Leu	Thr	Lys	Lys
			50					55						60	
Arg	Ala	Lys	Pro	Ala	Val	Pro	Leu	Gly	Ala	Asn	Tyr	Arg	Leu	Ile	Asp
65					70					75					80
Ile	Pro	Val	Ser	Asn	Cys	Leu	Asn	Ser	Asn	Ile	Ser	Lys	Ile	Tyr	Val
					85					90					95
Leu	Thr	Gln	Phe	Asn	Ser	Ala	Ser	Leu	Asn	Arg	His	Leu	Ser	Arg	Ala
					100					105					110
Tyr	Gly	Ser	Asn	Ile	Gly	Gly	Tyr	Lys	Asn	Glu	Gly	Phe	Val	Glu	Val
					115					120					125
Leu	Ala	Ala	Gln	Gln	Ser	Pro	Asp	Asn	Pro	Asn	Trp	Phe	Gln	Gly	Thr
					130					135					140
Ala	Asp	Ala	Val	Arg	Gln	Tyr	Leu	Trp	Leu	Phe	Glu	Glu	His	Asn	Val
145					150					155					160
Met	Glu	Phe	Leu	Ile	Leu	Ala	Gly	Asp	His	Leu	Tyr	Arg	Met	Asp	Tyr
					165					170					175

Glu	Lys	Phe	Ile	Gln	Ala	His	Arg	Glu	Thr	Asn	Ala	Asp	Ile	Thr	Val	180	185	190
Ala	Ala	Leu	Pro	Met	Asp	Glu	Lys	Arg	Ala	Thr	Ala	Phe	Gly	Leu	Met	195	200	205
Lys	Ile	Asp	Glu	Glu	Gly	Arg	Ile	Ile	Glu	Phe	Ala	Glu	Lys	Pro	Lys	210	215	220
Gly	Glu	Gln	Leu	Lys	Ala	Met	Met	Val	Asp	Thr	Thr	Ile	Leu	Gly	Leu	225	230	235
Asp	Asp	Val	Arg	Ala	Lys	Glu	Met	Pro	Tyr	Ile	Ala	Ser	Met	Gly	Ile	245	250	255
Tyr	Val	Phe	Ser	Lys	Asp	Val	Met	Leu	Gln	Leu	Leu	Arg	Glu	Gln	Phe	260	265	270
Pro	Glu	Ala	Asn	Asp	Phe	Gly	Ser	Glu	Val	Ile	Pro	Gly	Ala	Thr	Ser	275	280	285
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Ile	Gly	Thr	Ile	Ala	Ala	Phe	Tyr	Asn	Ala	Asn	Leu	Gly	Ile	Thr	Lys	305	310	315
Lys	Pro	Ile	Pro	Asp	Phe	Ser	Phe	Tyr	Asp	Arg	Phe	Ala	Pro	Ile	Tyr	325	330	335
Thr	Gln	Pro	Arg	His	Leu	Pro	Pro	Ser	Lys	Val	Leu	Asp	Ala	Asp	Val	340	345	350
Thr	Asp	Ser	Val	Ile	Gly	Glu	Gly	Cys	Val	Ile	Lys	Asn	Cys	Lys	Ile	355	360	365
Asn	His	Ser	Val	Val	Gly	Leu	Arg	Ser	Cys	Ile	Ser	Glu	Gly	Ala	Ile	370	375	380
Ile	Glu	Asp	Ser	Leu	Leu	Met	Gly	Ala	Asp	Tyr	Tyr	Glu	Thr	Glu	Ala	385	390	395
Asp	Lys	Lys	Leu	Leu	Ala	Glu	Lys	Gly	Gly	Ile	Pro	Ile	Gly	Ile	Gly	405	410	415
Lys	Asn	Ser	Cys	Ile	Arg	Arg	Ala	Ile	Ile	Asp	Lys	Asn	Ala	Arg	Ile	420	425	430
Gly	Asp	Asn	Val	Lys	Ile	Leu	Asn	Ala	Asp	Asn	Val	Gln	Glu	Ala	Ala	435	440	445
Met	Glu	Thr	Asp	Gly	Tyr	Phe	Ile	Lys	Gly	Gly	Ile	Val	Thr	Val	Ile	450	455	460
Lys	Asp	Ala	Leu	Leu	Pro	Ser	Gly	Thr	Val	Ile						465	470	475

<210> 3

<211> 1425

<212> DNA

<213> zea mays

<400> 3

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<212> PRT
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Thr Ala Ala Glu Gln Pro Ile Pro Lys Arg Asp Lys Ala Ala Ala Asn
20 25 30

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35 40 45

Ile Leu Gly Gly Gly Ala Gly Thr Arg Leu Tyr Pro Leu Thr Lys Lys
50 55 60

Arg Ala Lys Pro Ala Val Pro Leu Gly Ala Asn Tyr Arg Leu Ile Asp
65 70 75 80

Ile Pro Val Ser Asn Cys Leu Asn Ser Asn Ile Ser Lys Ile Tyr Val
85 90 95

Leu Thr Gln Phe Asn Ser Ala Ser Leu Asn Arg His Leu Ser Arg Ala
100 105 110

Tyr Gly Ser Asn Ile Gly Gly Tyr Lys Asn Glu Gly Phe Val Glu Val
115 120 125

Leu Ala Ala Gln Gln Ser Pro Asp Asn Pro Asn Trp Phe Gln Gly Thr
130 135 140

Ala Asp Ala Val Arg Gln Tyr Leu Trp Leu Phe Glu Glu His Asn Val
145 150 155 160

Met Glu Phe Leu Ile Leu Ala Gly Asp His Leu Tyr Arg Met Asp Tyr
165 170 175

Glu Lys Phe Ile Gln Ala His Arg Glu Thr Asn Ala Asp Ile Thr Val
180 185 190

Ala Ala Leu Pro Met Asp Glu Lys Arg Ala Thr Ala Phe Gly Leu Met
195 200 205

Lys Ile Asp Glu Glu Gly Arg Ile Ile Glu Phe Ala Glu Lys Pro Lys
210 215 220

Gly Glu Gln Leu Lys Ala Met Met Val Asp Thr Thr Ile Leu Gly Leu
225 230 235 240

Asp Asp Val Arg Ala Lys Glu Met Pro Tyr Ile Ala Ser Met Gly Ile
245 250 255

Tyr Val Phe Ser Lys Asp Val Met Leu Gln Leu Leu Arg Glu Gln Phe
 260 265 270

Pro Glu Ala Asn Asp Phe Gly Ser Glu Val Ile Pro Gly Ala Thr Ser
 275 280 285

Ile Gly Lys Arg Val Gln Ala Tyr Leu Tyr Asp Gly Tyr Trp Glu Asp
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Ile Gly Thr Ile Ala Ala Phe Tyr Asn Ala Asn Leu Gly Ile Thr Lys
 305 310 315 320

Lys Pro Ile Pro Asp Phe Ser Phe Tyr Asp Arg Phe Ala Pro Ile Tyr
 325 330 335

Thr Gln Pro Arg His Leu Pro Pro Ser Lys Val Leu Asp Ala Asp Val
 340 345 350

Thr Asp Ser Val Ile Gly Glu Gly Cys Val Ile Lys Asn Cys Lys Ile
 355 360 365

Asn His Ser Val Val Gly Leu Arg Ser Cys Ile Ser Glu Gly Ala Ile
 370 375 380

Ile Glu Asp Ser Leu Leu Met Gly Ala Asp Tyr Tyr Glu Thr Glu Ala
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Asp Lys Lys Leu Leu Ala Glu Lys Gly Gly Ile Pro Ile Gly Ile Gly
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Lys Asn Ser Cys Ile Arg Arg Ala Ile Ile Asp Lys Asn Ala Arg Ile
 420 425 430

Gly Asp Asn Val Lys Ile Leu Asn Ala Asp Asn Val Gln Glu Ala Ala
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20 25 30

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Asp Ile Pro Val Ser Asn Cys Leu Asn Ser Asn Ile Ser Lys Ile Tyr		
85	90	95
Val Leu Thr Gln Phe Asn Ser Ala Ser Leu Asn Arg His Leu Ser Arg		
100	105	110
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Val Leu Ala Ala Gln Gln Ser Pro Asp Asn Pro Asn Trp Phe Gln Gly		
130	135	140
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Tyr Glu Lys Phe Ile Gln Ala His Arg Glu Thr Asn Ala Asp Ile Thr		
180	185	190
Val Ala Ala Leu Pro Met Asp Glu Lys Arg Ala Thr Ala Phe Gly Leu		
195	200	205
Met Lys Ile Asp Glu Glu Gly Arg Ile Ile Glu Phe Ala Glu Lys Pro		
210	215	220
Lys Gly Glu Gln Leu Lys Ala Met Met Val Asp Thr Thr Ile Leu Gly		
225	230	235 240
Leu Asp Asp Val Arg Ala Lys Glu Met Pro Tyr Ile Ala Ser Met Gly		
245	250	255
Ile Tyr Val Phe Ser Lys Asp Val Met Leu Gln Leu Leu Arg Glu Gln		
260	265	270
Phe Pro Glu Ala Asn Asp Phe Gly Ser Glu Val Ile Pro Gly Ala Thr		
275	280	285
Ser Ile Gly Lys Arg Val Gln Ala Tyr Leu Tyr Asp Gly Tyr Trp Glu		
290	295	300
Asp Ile Gly Thr Ile Ala Ala Phe Tyr Asn Ala Asn Leu Gly Ile Thr		
305	310	315 320
Lys Lys Pro Ile Pro Asp Phe Ser Phe Tyr Asp Arg Phe Ala Pro Ile		
325	330	335
Tyr Thr Gln Pro Arg His Leu Pro Pro Ser Lys Val Leu Asp Ala Asp		

340

345

350

Val Thr Asp Ser Val Ile Gly Glu Gly Cys Val Ile Lys Asn Cys Lys
355 360 365

Ile Asn His Ser Val Val Gly Leu Arg Ser Cys Ile Ser Glu Gly Ala
370 375 380

Ile Ile Glu Asp Ser Leu Leu Met Gly Ala Asp Tyr Tyr Glu Thr Glu
385 390 395 400

Ala Asp Lys Lys Leu Leu Ala Glu Lys Gly Gly Ile Pro Ile Gly Ile
405 410 415

Gly Lys Asn Ser Cys Ile Arg Arg Ala Ile Ile Asp Lys Asn Ala Arg
420